CLAIMS

1. Device for treating an ocular condition linked to a diminution of the amplitude of accommodation of the eye due to a loss of tension of the zonular fibres caused by an increase of the diameter of the lens, said device being designed to be implanted surgically in the ciliary sulcus, behind the iris, and defined so as to compensate the loss of tension of the zonular fibres by exerting on the ciliary sulcus a pressure tending to increase its diameter,
characterized in that the said device comprises a closed tubular envelope (1) constituted of an elastic material impermeable to fluids, the envelope (1) having the form of an annulus or portion of an annulus having an external diameter (20) predetermined at rest, the internal wall (11) of the envelope (1) defining an aperture (12) designed to be filled with an incompressible fluid tending to increase the external diameter (20) to a value at which the compensation for the loss of tension of the zonular fibres is obtained.

2. Device according to Claim 1, characterized in that the envelope (1) is constituted of a biocompatible elastomeric material.

3. Device according to one of the Claims 1 and 2, characterized in that the external diameter (20) of the annulus or portion of annulus (1) at rest is included between 9.5 mm and 11.5 mm, advantageously between 10 mm and 11 mm.

4. Device according to one of the Claims 1 and 2, characterized in that the external diameter (20) of the annulus or portion of annulus (1) at rest is included between 10.5 mm and 11.5 mm.

5. Device according to one of the Claims 1 to 4, characterized in that the envelope (1) is equipped with a valve (13) making possible the entry and exit of the incompressible fluid by the aperture (12).

6. Device according to one of the Claims 1 to 5, characterized in that the diameter (21) of the envelope (1) at rest is included between 0.5 and 2 mm.

7. Device according to one of the Claims 1 to 6, characterized in that the

thickness of the envelope (1) is at least 50 μm.

8. Device according to one of the Claims 1 to 7, characterized in that the aperture (12) of the envelope (1) is filled with an incompressible fluid.

9. Device according to Claim 8, characterized in that the incompressible fluid is at a specific pressure for which the external diameter (20) of the annulus or portion of annulus is likely to compensate the loss of tension of the zonular fibres in a patient.

10. Device according to any one of the Claims 1 to 9, characterized in that the biocompatible elastomeric material is selected from a silicone, a polyolefin, a polyurethane, a polyacrylic, a hydrogel, a mixture of a hydrogel and a silicone, a mixture of bovine collagen and a hydrogel, a polyvinyl chloride elastomer, a polytetrafluoroethylene (PTFE) and a polysulfone.

11. Device according to one of the Claims 1 to 10, characterized in that the biocompatible elastomeric material is selected from silicone rubbers, polyvinyl chloride, polyolefin homopolymers or copolymers, urethane-based elastomers, the natural or synthetic rubbers.

12. Device according to one of the Claims 1 to 11, characterized in that the envelope (1) comprises surface modifications as a means for the impregnation of the envelope (1) with an active ingredient or a combination of active ingredients of a medicine.

13. Device according to one of the Claims 1 to 12, characterized in that it comprises a groove placed on the surface of the envelope (1), and defining an annulus in the interior diameter of the device, the said groove of the annulus consisting of a means for fixing a precrystalline intraocular lens.